



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/491,110 01/25/2000 Frank W. Liebenow 450.129US2 8106

21186 7590 09/10/2002

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

ALPHONSE, FRITZ

ART UNIT PAPER NUMBER

2675

DATE MAILED: 09/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

21

PRG

Office Action Summary

Application No.
09/491,110

Applicant(s)
Liebenow

Examiner
Fritz Alphonse

Art Unit
2675



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 1, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-51 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

Art Unit: 2675

DETAILED ACTION

This is in regard to amendment filed on 7/1/02 in which claims 30-51 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 30-31, 40, 41, 43 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joyce (U.S. Pat. No. 4,686,329) in view of Kirsch (U.S. Pat. No. 4,390,347).

As to claims 30-31, Joyce (figs. 1-3) show a computerized system comprising: a computer (48) having at least a processor (40) and a memory (42); and, a mouse pointing device (10) positionable over a surface (col. 2, lines 64-66).

Joyce does not explicitly teaches about a surface having a plurality of uniquely coded positions arranged in a gradient and a mouse that senses the coding of the uniquely coded position underneath the mouse and conveying to the computer information relative to the uniquely coded position underneath the mouse.

However, in the same field of endeavor, Kirsch (figs. 1-2) teaches about a detector for electro-optical mouse wherein a surface consists of a grid of lines having a plurality of uniquely coded positions (col. 3, lines 35-62). and a mouse that senses the coding of the uniquely coded position underneath the mouse (see claims 1, 14).

Art Unit: 2675

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kirsch's electro-optical mouse detector to Joyce's apparatus. By doing, a cursor position system should be able to reliably determine motion of a mouse over a grid surface for every possible relative position between the detector elements and the grid lines.

As to claim 40, the claim differs from claim 30 only in that the limitations "a first sensor disposed within the housing ; a second sensor disposed within the housing" are added. However, these limitations are clearly disclosed by Kirsch (col. 5, lines 26-31). See the motivation above.

As to claims 41, 43 and 51, the claims have substantially the limitations of claim 40. Therefore, they are analyzed as previously discussed in claim 40 above.

3. Claims 32-33 and 36-37 and 39, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettypiece (U.S. Pat. No: 5,223,709) in view of Mak (5,420,943).

As to claim 32, Pettypiece discloses a joystick pointing device comprising: a movable control stick (fig. 2); a first gradient (gray scales :50), operatively coupled to the control stick (col.2, lines 14-54) such that movement of the control stick on a first axis causes corresponding movement of the first gradient (col.2, lines 55-68; col.3, lines 1-9); a fixed first sensor positioned over the first gradient to detect the intensity level of the position underneath the first sensor (60); a second gradient (gray scale: 52) operatively coupled to the control stick such that movement of the control stick on a second axis causes corresponding movement of the second gradient; and, a fixed second sensor(70) positioned over the second gradient to detect the intensity level of the position underneath the second sensor (col.3, lines 34-65).

Art Unit: 2675

Pettypiece does not explicitly disclose a first and second gradient having a plurality of positions uniquely varying in intensity level.

However, Mak discloses a mouse pad having a bar code system that comprises a plurality of positions uniquely varying in intensity level (col.3, lines 62-68).

Therefore, it would have been obvious to one having ordinary skill in the art at time the invention was made to use the teaching of Mak related to a uniquely coded position off-screen medium, because it would provide Pettypiece's system with the enhanced capability of providing a universal input device for the computer with a great deal of freedom.

As to claim 33, Pettypiece discloses a joystick pointing device comprising: a first and second light source positioned over the gradients to illuminate the position underneath the sensors (col.3, lines 34-55).

As to claim 36, the claim has substantially the limitations of claims 32-33. Therefore, it is analyzed as previously discussed in claims 32-33 above.

As to claim 37, Mak discloses the use of light source to illuminate the position underneath the first sensor and position underneath the second sensor (col. 3, lines 34-55).

As to claim 39, the claim has substantially the limitations of claim 32. Therefore, it is analyzed as previously discussed in claim 32 above.

4. Claims 34-35 are rejected under 35 U.S.C.103(a) as being unpatentable over Pettypiece.

In regard to independent claim 34, Pettypiece discloses a joystick pointing device comprising: a movable control stick (32); a spherical member (20) mounted to an end of the movable control

Art Unit: 2675

stick (figs.2 and 3), a bottom surface of the dome having a gradient (gray scale: 50) having a plurality of positions uniquely varying in intensity level (from white to black), (col.2, lines 55-68; col.3, lines 1-9) of a first color on a first axis and a second color on a second axis; a first sensor (60) positioned over the surface of the dome to detect the intensity level of the first color of the position above the first sensor; and, a second sensor (70) positioned over the surface of the dome to detect the intensity level of the second color of the position above the second sensor (col.3, lines 10-68).

Pettypiece does not disclose a convex dome mounted to an end of the movable control stick. However, the use of a convex dome is obvious because, first of all it is a matter of design choice. Second, Pettypiece's spherical member has much more surface area to expand the gray scale pattern.

As to claim 35, Pettypiece discloses the use of light source to illuminate the position above the first and the second sensor (col. 3, lines 34-55).

5. Claim 38 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Mak in view of Pettypiece.

In regard to independent claim 39, Mak discloses substantially the limitations of the claim. Unfortunately, he fails to disclose a computerized system comprising a joystick pointing device.

However, Pettypiece discloses a joystick pointing device having a movable control stick. Therefore, it would have been obvious to one having ordinary skill in the art at time the invention was made to use the teaching of Pettypiece related to the use of a joystick pointing device because it would provide Mak's system with the enhanced capability of creating a better ergonomic way to control a pointing device on a display screen.

Art Unit: 2675

6. Claims 42, 44-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch (U.S. Pat. No. 4,390, 873) hereinafter referred to (K-873) in view of Kirsch (U.S. Pat. No: 4,546,347) hereinafter referred to (K-347) .

As to claim 42, Kirsch (K-873) fails to disclose a pointing device, wherein each of the first and second light sources comprises a light-emitting diode. However, this limitation is disclosed by Kirsch (K-347). See column 3, line 12.

Therefore, it would have been obvious to one having ordinary skill in the art at time the invention was made to improve upon the LED as disclosed in K-347. Doing so would improve the detection process with the enhanced capability to emit individual visible light underneath each sensors.

As to claims 44-45, Kirsch (K-873) does not teach a first gradient interposed a second gradient and wherein the position underneath the first sensor is substantially coincident to the position underneath the second sensor. However, these limitations are clearly disclosed by Kirsch (K-347). See figure 2 and the motivation above.

As to claims 46-48, Kirsch (K-873) does not teach each gradient is a color gradient such that the plurality of positions uniquely vary in intensity level of color and wherein the first gradient is a color gradient of a first color and the second gradient is a color gradient of a second color. However, these limitations are clearly disclosed by Kirsch (K-347). See column 3, lines 35-40.

As to claim 49, Kirsch (fig. 2) shows a pointing device, wherein each gradient is a gray-scale gradient such that the plurality of positions uniquely vary in shades of gray.

Art Unit: 2675

7. Claim 50 is rejected under 35 U.S.C.103(a) as being unpatentable over Kirsch (K-873) in view of Pettypiece.

As to claim 50, Kirsch does not disclose a joystick.

However, using a joystick as a position pointing device is very well known in the art as evidenced by Pettypiece (fig.3). Therefore, it would have been obvious to one having ordinary skill in the art at time the invention was made to use the teaching of Pettypiece related to the use of a joystick pointing device because it would provide Kirsch's system with the enhanced capability of creating a better ergonomic way to control a pointing device on a display screen.

Response to Arguments

8. Applicant's arguments filed 7/1/02 have been fully considered but they are not persuasive.

Applicant argues that he can find in Kirsch no teaching or suggest of a gradient as used in Applicant's specification.

Examiner disagrees with the preceding argument because Kirsch (claim 14) clearly teaches about using lines and spaces of different colors to create changes in contrast (i.e., a gradient) over the surface.

Applicant argues that Kirsch does not teach "a gradient". The Examiner disagrees with the preceding argument because the use of two colors (see abstract) would produce a tonal of three contrast levels which are indeed uniquely varying in intensity (claim 1). That change in tonality would provide a change in position which generate a gradient.

Art Unit: 2675

Applicant argues in many places that he is unable to find in Kirsch any reference to a gradient “uniquely varying in intensity level”. As the Examiner mentioned previously, the idea of a gradient is inherent as Kirsch discloses a grid having two color lines with contrasting line intersections. The rate of changes in contrast level indicates a gradient.

Examiner has to consider the broad reasonable interpretation of the claim and then apply the prior art. Claims 30 and 31 can be simply considered as an ordinary mouse which includes a track ball touching a regular pad. By moving the mouse, a unique position relative to a surface underneath represents the position of the cursor on a screen. Therefore, the Applicant, in regard to this limitation, claimed no new matter other than what is known in the art and what is inherently understandable from using an ordinary mouse.

Furthermore, Mak’s universal computer input device is selectively operated as a point-and-click bar code reader and mouse which can identify a plurality of coded positions (i.e., lines that vary in intensity; see claim 7).

Applicant asserts that neither Pettypiece nor Mak, alone or in combination, teach uniquely identifying a position using only a first and second sensor.

However, in column 3, lines 34-35, Pettypiece discloses a plurality of light (i.e. sensors) are supplied in order to detect the points of some specific areas. It is understood that Pettypiece (figs. 1-3) shows a joystick having a spherical member surface on which lines from the right side to the left side of area 50 continually decreases from white to black. This pattern would produce a change

Art Unit: 2675

in contrast level and provide a plurality of positions uniquely varying in intensity level of a first and second color (col.3, lines 1-9; claim 6).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lyon (U.S. Pat. No. 4,521,772) discloses a cursor control device.

Bilbrey et al. (U.S. Pat. No. 4,543,571) discloses an opto-mechanical cursor positioning device.

Joyce (U.S. Pat. No. 4,686,329) discloses an absolute position mouse.

Kwang-Chien (U.S. Pat. No. 4,880,967) discloses an optical input device based on a coordinate vector method.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse whose telephone number is (703) 308-8534.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Art Unit: 2675

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



F. Alphonse

Art Unit: 2675

September 4, 2002



CHANH NGUYEN
PRIMARY EXAMINER